Gateway

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The ARRL Packet-Radio Newsletter

PACSAT CRASH PROGRAM UNDERWAY

Within the next two years, packet radio users may be able to pass their signals through an orbiting satellite as a result of a crash program that is underway to build and launch such a bird, according to Jan King, W3GEY, AMSAT Vice President of Engineering. The satellite, generally referred to as PACSAT, has been dreamed about for nearly half a decade since the conception of the TAPR TNC.

There are several "fertile" launch opportunities within calendar 1988 and 1989 and the AMSAT Board has authorized the formation of a PACSAT team and funded it at $50,000 to take advantage of any feasible launch that would be compatible with the PACSAT mission. According to Tom Clark, W3IWI, a major portion of the design of PACSAT is complete, and the construction of a prototype will commence immediately.

All packet-radio enthusiasts will be able to make use of the PACSAT satellite when it is launched, possibly within the next two years. Attainment of this very ambitious goal will entail financial support and a special fund has been set up for this purpose.

Contact AMSAT, PO Box 27, Washington, DC 20044 for further details.

from The ARRL Letter

PHASE 3C UNDERGOES PRE-LAUNCH TESTS

AMSAT's new Phase 3 satellite is undergoing pre-launch tests at AMSAT-DL in West Germany. If all goes well, this new OSCAR will be launched on the European Space Agency's (ESA) V-22 mission planned for March 15, 1988. Like OSCAR-10, this new satellite will also be placed in a highly elliptical orbit. It is expected to carry three linear transponders and a single-frequency, digital RUDAK transponder.

Satellite operations should include:

```
Mode B  : 435 MHz up, 145 MHz down.
Mode JL : 1269 MHz, 145 MHz up,
          combined 435 MHz down.
Mode S  : 435 MHz up, 2400 MHz down.
RUDAK   : 1269.675 MHz up,
          435.675 MHz down.
```

from Space News

THIRD REGION ADOPTS 5-DIGIT ZIP CODE ROUTING

The Third Region has recently adopted 5-digit ZIP codes for NTS traffic forwarding. The format is used without any @<bbs_call> or @<section_designator> entries. The @<anything> may still be used for those entries that require it, but the 5-digit routing is preferred. In addition, the Title entry serves a new purpose. Recognizing that NTS ultimately operates to serve the user, the Title entry will be of the form:

<town_name> / <phone_exchange>

that is, the town and telephone exchange of the addressee, not the originating station.

This will allow a local user to use the LT (list traffic) command and determine immediately whether or not it is a deliverable message without actually reading the message to see where it is going. The PBBS would respond to the LT command, as follows:

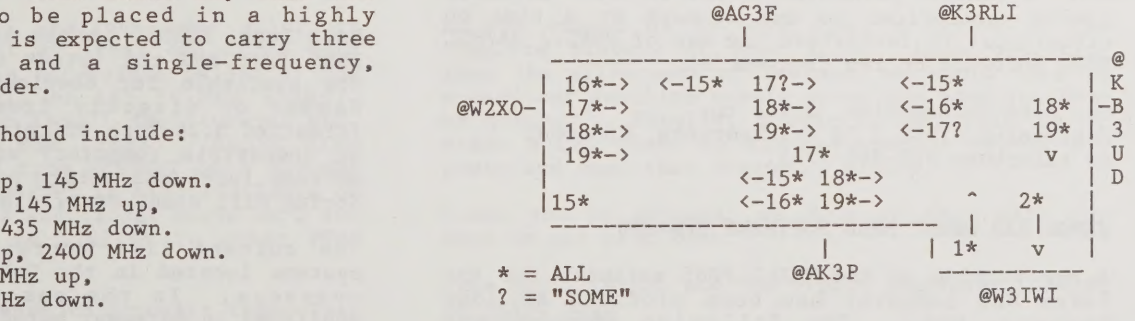
```
14707 TN 236 18013 WA3PGR 25-NOV EAST BANGOR / 588
14705 TN 566 18042 KR0AK  25-NOV EASTON / 250
14703 TN 502 18103 WA3PGR 25-NOV ALLENTOWN / 820
```

The user can quickly identify and download those messages which he is capable of handling. It is hoped that this will increase efficiency and cut down on unnecessary downloads.

Black Box Theory

Within the Third Region, T traffic is defined as that sent using the ST command; traffic that is killable (via the K command) by anyone and generally destined for a third party, not necessarily a ham and not necessarily NTS (but certainly driven by NTS).

Let's "construct" the Third Region as a multiported black box. The entry portals, for the purpose of this example are two HF portals, AG3F and W3IWI, and four VHF/UHF portals, W2XO, K3RLI, AK3P and KB3UD. (Before PBBSs get excited, remember that this is only an example).



Any of these portals are equipped to receive T traffic addressed either TO ZZZZZ or TO ZZZZZ @NTSst (NTSst is either NTSPA, NTSDE, NTSMD or NTSMDC) where TO ZZZZZ using the 5-digit ZIP code is preferred. Using wild-card forwarding, each of these portals has the ability to send the received T traffic in its appropriate direction with minimal forwarding file entries. 15*s and 16*s go west, some 17*s go central, some 17*s and 18*s go north by northeast, some 18*s go east and 19*s go

southeast. If T traffic is received with an @<entry> in the NTS<state> format, then this would be stripped and replaced by a null to permit full-featured 5-digit ZIP routing to take effect. This also allows alternate routing in the case of path failures or simply for redundancy.

There is also the outward flow in which case 4*s go west to Ohio, 5*s, 6*s, 7*s, 8*s and 9*s all head in the direction of the closest HF portal; 0*s go northeast, 1*s need to be defined one layer deeper to the next ZIP digit before they reach a portal, but can be easily wild-carded as well. A similar black box can be constructed for every state and the routing of T traffic can assume an orderly march to its destination based upon its 5-digit ZIP code address.

from Tom Teel, KB3UD (@ KB3UD), 3rd Region
Packet Manager and STM of Eastern Pennsylvania

NEW KANTRONICS FIRMWARE ADDS NODE-TO-NODE ACK'ING

Node-to-node acknowledgement, WEFAX and other new features are now available for the Kantronics KAM, KPC-1, KPC-2, KPC-4 and KPC-2400 packet-radio products with the recently announced release of version 2.8 firmware. "KA-NODE" provides node-to-node acknowledgement of digipeated packets instead of the end-to-end acknowledgement provided by normal AX.25 digipeating. If a packet is trashed between two KA-NODEs, the transmitting node retransmits the packet (normally, the originating station retransmits trashed packets no matter where the packet was trashed in the digipeater chain). All packets to and from a KA-NODE are standard AX.25 packets; no overhead bytes (control data) are added. In addition, KA-NODEs do not 'chat' with one another.

With version 2.8 firmware installed, all Kantronics TNCs are "hardware capable" of receiving weather facsimile (WEFAX). The WEFAX command causes the TNC to sample received audio continuously at a specified rate. Picture pixels are then sent to the RS-232 port of the computer, 8-bits at a time with start and stop bits added. The computer must do the rest; a terminal program is required to handle the incoming WEFAX data. Kantronics provides instructions that outline how to write the required program. Also, Kantronics' MAXFAX software is available for the IBM PC and Commodore C-64/128 computers to provide WEFAX screen display, printing and diskette storage.

Another feature of the new firmware is the "Oneusers" function which occurs when the KAM and KPC-4's Maxuser parameter is set to 0/0. Oneusers limits connections to one connect at a time on either port to facilitate the use of WØRLI/ WA7MBL PBBS software on two frequencies.

For more information, write to:
Kantronics, 1202 E 23 St, Lawrence, KS 66046
or telephone 913-842-7745.

XEROX 820 WØRLI PBBS SOFTWARE UPDATED

A new version of the WØRLI PBBS software for the Xerox 820 computer has been produced by John Bennett, N4XI. The following changes and additions are included:

o Fixed the bug which did not allow messages numbered higher than 9999 from being displayed.

o Fixed the bug which allowed garbage to be sent to the TNC when the message count is 0 and you issue a "bt $E."

o Fixed the bug in SYSGEN which prevented bootstrap tracks from being written on a 5.25-inch disk drive systems.

o Added forwarding capability through NET/ROM and COSI network nodes. Connect (success) messages and prompts from nodes are configurable in CONFIG.TNC file.

o Added deletion of the @ field in received message on conditional match with list given in CONFIG.TNC file.

o Added a second forwarding file to permit forwarding the same file at two different times or two files at their own time.

o Added message text in the CONFIG.TNC file to be sent to a user when he invokes the KT command and no service message is generated.

o Added MAXERR count to the CONFIG.TNC file to set the number of bad commands before a forced log-off occurs (may be changed from the local menu using the P command).

o Added flag in the CONFIG.TNC file to selectively and automatically kill private messages (P messages).

o Added flag in the CONFIG.TNC file to selectively and automatically kill NTS type messages (T and S messages).

o Added a software clock set from a hardware clock for automatic booting (this is operable only when an additional circuit is installed).

o Added hard disk modifications for CBIOS integrated into CBIOS.

o Added Xerox 820-II modifications in CBIOS to permit use of the LP keyboard and the terminal bell.

o Provided utility programs to transfer COM and data files between two Xerox computers via their serial ports (e.g., transfer between 8-inch and 5.25-inch disk drive systems).

A copy of the software may be obtained by sending two 8-inch, single-sided disks and a self-addressed disk mailer with sufficient postage to John Bennett, N4XI, 5805 Whitehorne Dr, Evansville, IN 47710. Note that double-sided disks cannot be copied. Also, if you only need the source code and do not plan to run a hard disk, then one disk will suffice.

from John Bennett, N4XI

WORLDWIDE PBBS LIST AVAILABLE

Dave Zeph, W9ZRX, is the keeper of the worldwide PBBS list and the latest edition of the list is now available for downloading from CompuServe's HamNet or directly from Dave by sending a formatted 5.25-inch diskette (for an IBM PC/XT/AT or compatible computer) with a diskette mailer, address label and return postage to Dave at 16310 Spring Mill Road, Westfield, IN 46074.

The current list contains approximately 700 systems located in the United States, Canada and overseas. In the past, the list has been published in Gateway, but due to its size, this is no longer possible as it would fill two complete issues of the newsletter!

The list is only as good as the information received, so Dave eagerly solicits additions, corrections, modifications and suggestions. If you have something to send, Dave needs the following data: PBBS call sign, PBBS name, PBBS address (city, state, ZIP code, grid square, latitude and longitude, telephone area code), port frequency(ies), which ports are open and which

ports are closed and the call sign of the nearest HF gateway.

As the keeper of the PBBS list, Dave made the following observations:

Packet networking is spreading around the globe; an ASIANET forwarding network has been established on 14.111 MHz.

The list includes the first PBBSs in India and Africa (Kenya).

Now, there are PBBSs in 48 states (Delaware and Nevada are still missing) with 549 US. PBBSs in all. The most explosive growth in the last four months has been in Montana, which now boasts five systems. Oregon remains the "black hole" of PBBSs with the fewest (only two) for a "major" state.

The greatest unknown in packet forwarding today: Is there a path to Idaho?

from Dave Zeph, W9ZRX

NOVICE NOTCH

Southern California

In Southern California, there is a packet-radio network on the 220-MHz band that serves two purposes: 1) access to WESTNET for Novice (and other) users via 223.42 MHz and 2) as a backup forwarding channel for several PBBS stations in the area. Because of the user-oriented status of the channel, the second function is generally limited to off-hours.

The facilities on the channel are, as follows:

PBBS Stations	Location
AJ6F-11	Torrance (LAX/NTS)
K6IYK-14	Chatsworth (S CA VHF Gateway)
KB6GVT-1	Rialto (IEBBS support)
KD4SQ-2	Riverside (BBS access only)

Digipeaters	Location
KB6CUN	Hollywood Hills
KD6SQ-4	Riverside (144.76 MHz gateway)
N6PWD	Huntington Beach

NET/ROM Nodes	Location
K6IYK-13/VERA13	Hollywood Hills
W6TJ-2/SBD1	San Bernardino Mountains
W6VPZ-11/PV11	Palos Verdes

All of the listed PBBS stations have multiport capabilities and support at least one other port on 2 meters. AJ6F-11 is accessible on 145.07 MHz (users) and, as AJ6F-1, on 145.36 MHz (PBBS). K6IYK-14 is available on 145.01 MHz (users) and, as K6IYK-4, on 145.36 MHz (PBBS). K6IYK also supports traffic to and from WESTNET on a 220-MHz backbone frequency. KB6GVT-1 is also available on 145.03 MHz. KD6SQ-2 has additional ports on 2 and 40 meters, but access is limited to other PBBS stations.

Novice users are encouraged to acquaint themselves with the 220-MHz activity. The facilities are abundant; why not use them!

from Bob Poole, AJ6F

Northern New Jersey

The Major Armstrong Memorial Amateur Radio Club, Inc. has a NET/ROM node on 223.420 MHz located in Alpine, New Jersey (on the cliffs of the Hudson River, across the river from Yonkers, New York). A PBBS (W2LWB-4) is available there also.

from John Gubernard, K2LSX

(Gateway would like to continue to publicize Novice packet activities, so if you know of any, please let me know, too. - WA1LOU)

CONNECT INTERNATIONAL QRX

We have word that RSGB's Connect International monthly packet newsletter has suspended publication, as they are in between editors. Subscriptions are being extended each month that a newsletter is not produced. Any inquiries should be directed to Tim Charles, G4EZA, RSGB, Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JE, England.

A NOTE ABOUT CONTACTING A DIGITAL DXPEDITION

After being on a number of digital DXpeditions, we find it necessary to provide some brief notes on how to make a contact with us or other digital DXpedition. Remember that, in most cases, we are battery and/or gasoline powered and that our operating time is limited. We have portable equipment and portable antennas and may be plagued by poor ground and by RF getting into the equipment on certain frequencies. Under these conditions, we are trying to contact as many stations as possible (because there is little activity from the spot we are visiting). Often we are the only station active in a particular digital mode (packet radio, RTTY, ASCII and AMTOR) from that DXCC country.

With that understood, we would appreciate it if you followed these three simple recommendations:

o Send short RY-trailers; we do not have time or need 80 RYs!

o Send short calls (call only: RYRYRY LA4LN DE your call K).

o Keep the QSO short; just RST three times; we will ask if we want more information.

Many stations call at the same time, so we listen at least $\pm$ 1 kHz, often $\pm$ 5 kHz unless we make an announcement otherwise. We try to keep QSOs short, often limited to RST, so that we may work as many stations as possible during our limited time. Do not expect us to give our name, QTH and QSL information in every QSO. Listen a few minutes and we will give it periodically.

Do not expect us to have time to listen to the complete history of your life. When operating from the wilderness of Iceland, we would like to spread our gasoline evenly among the many stations we contact. Finally, please do not call CQ or start a QSO close to our frequency. We use low power and need that frequency window.

Thank you in advance; we hope to chat with you when we get back home.

from Siri, LA2SR, and Tom Victor Segalstad, LA4LN, in SARTG News

WAIT 'TIL NEXT YEAR

Since Gateway is only published 25 times per year, twice a year there is a three week break between issues rather than the normal two week break. One of those three week breaks is going to occur between this and the next issue of Gateway (to be dated January 8). So, Happy Holidays and see you next year!

GATEWAY CONTRIBUTIONS

Submissions for publication in Gateway are welcome. You may submit material via the US mail to:

Gateway
Stan Horzepa, WA1LOU
75 Kreger Drive
Wolcott, CT 06716-2702

or electronically, via CompuServe to user ID 70645,247. Via telephone, your editor can be reached at 203-879-1348 on evenings and weekends, and he can switch a modem on line to receive text at 300, 1200, or 2400 bauds.

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